

**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 36194**

I. INTRODUCTION

This Class I air quality control renewal permit is for the operation of a Municipal Solid Waste Landfill. The facility is owned and operated by the City of Flagstaff, in Coconino County. This is a renewal of Permit 1000775.

Company Information

Facility Name:	Cinder Lake Landfill
Facility Address:	6770 Landfill Road Flagstaff, Coconino County, AZ 86004
Mailing Address:	211 W. Aspen Avenue Flagstaff, AZ 86001

Background

This source is a Municipal Solid Waste Landfill, located approximately 8 miles north of Flagstaff. The landfill has been in operation since 1965. No modifications have been made during the previous permit period that would affect the air emissions of the facility.

II. FACILITY DESCRIPTION

Process Description

Cinder Lake Landfill accepts household, commercial, and institutional wastes and animal carcasses and remains. The landfill also accepts refrigerators, and has a certified (under 40 CFR §82, Subpart F) technician on site to evacuate the refrigerant. The landfill also accepts paper sludge from a local paper recycling plant. This sludge is mixed with wood mulch from the green waste operation and used as an alternative daily cover.

Materials NOT accepted include:

- Hazardous waste
- PCB-containing transformers, capacitors and large electrical equipment
- Tires
- Friable asbestos
- Sewage sludge
- Pesticide containers
- Medical waste
- Industrial waste
- Liquid waste (defined as waste determined to contain free liquids as defined by EPA Method 9095 – paint filter test)

The facility does not allow:

- Salvaging
- Open burning
- Mixing of bulk liquid waste with refuse in a cell
- Disposal of municipal solid waste within 100 feet of any property boundary or roadway

- Unauthorized disturbance of *Penstamon clutei* (a native plant)
- Excavation of previously landfilled materials without the implementation of a health and safety plan

Cinder Lake Landfill restricts the working face to the smallest area practical. Solid waste is deposited on the working face in layers no thicker than 2 feet and compacted. Compacted solid waste is covered with 6-8 inches of alternate daily cover (ADC) at the end of each working day, or more frequently if necessary.

Hours of operation are 7AM to 5PM, Saturdays 7AM to 4:30PM, Sundays 9:30AM to 4:30 PM. The landfill is operating 363 days per year.

III. EMISSIONS

Table 1, below, shows the uncontrolled emissions from the Flagstaff Cinder Lake Landfill

Table 1: Uncontrolled Emissions

Pollutant	Emissions (tpy)
Non-Methane Organic Compounds (NMOC)	3.68
Volatile Organic Compounds (VOC)	3.37
Single Hazardous Air Pollutant (HAP)	2.22
Total Hazardous Air Pollutant (HAP)	6.27
Particulate Matter less than 10 Microns (PM ₁₀)	44.46

- A. Particulate emissions are produced by unpaved road traffic, scraper operations and operation of construction vehicles. Dust control is accomplished by watering traffic areas with treated effluent water. Approximately 9,600-12,800 gallons are applied, as necessary, on days without precipitation. In addition, properly maintaining roads and reducing vehicle speeds to 10 mph help to reduce dust. Using AP-42, the total controlled PM₁₀ emissions from the facility in 2004 was 8.89 tons. The average annual increase of waste disposal from 1994-2004 was 6%. Using the 6% growth rate, the expected PM₁₀ emissions (with controls) from the facility at the end of the permit term will be approximately 11.9 TPY.
- B. Estimates of non-methane organic compound (NMOC) emissions were calculated using the equation specified in 40 CFR §60.754(a)(1)(i). Tier 2 sampling was conducted in 2003 resulting in an NMOC concentration of 65.7 ppm as hexane. Using the NMOC concentration of 65.7 ppm as hexane and an annual growth rate of 6%, the landfill is estimated to exceed the 50 Mg/yr threshold sometime between 2035 and 2036. The NMOC emission estimate will be re-evaluated after the next Tier 2 analysis in 2008. The NMOC emissions in 2004 were 3.34 Mg/yr (3.68 TPY). Based on 6% annual growth, the NMOC emissions at the end of the permit period will be approximately 4.46 Mg/yr (4.92 TPY).

At this point in time, Cinder Lake Landfill is well below 50 Mg/yr for NMOC. When the landfill does approach the threshold, it will implement a landfill gas collection system. It is anticipated that his system will reduce NMOC emissions to less than 2 Mg/yr.

- C. Cinder Lake Landfill also has site-specific data on HAP and VOC content in their landfill gas. The total HAP and VOC emissions for 2004 were 10.24 TPY. With the 6% growth, estimated total HAP and VOC emissions at the end of the permit period will be approximately 13.7 TPY.

IV. APPLICABLE REGULATIONS

The applicable regulations were identified by the agency as part of the application packet. If necessary, the source is required to list any additional regulations that may be applicable. Table 2, on the following page, displays the applicable requirements for each piece of equipment under this proposed permit.

Table 2: Verification of Applicable Regulations

Unit	Date of Constr./Mod.	Control Device	Rule	Verification
MSW Landfill	Modified in 1999	Required when NMOC > 50 Mg/yr	40 CFR §60, Subpart WWW	Subpart WWW regulates emissions of landfill gas from MSW landfills
Generators	N/A	N/A	R18-2-719	This standard applies to all stationary rotating machinery
Fugitive dust sources	N/A	Water and other reasonable precautions.	Article 6 of the AAC	These standards are applicable to all fugitive dust sources.
Asbestos Handling	N/A	N/A	40 CFR §61.154 (Subpart M)	Standards for disposal of asbestos-containing waste
Mobile sources	N/A	Water Sprays/Water Truck for dust control	Article 8 of the AAC	Opacity requirements for smoke and dust for mobile sources (construction equipment, etc.).
Stratospheric Ozone	N/A	N/A	40 CFR §82, Subpart F	Requirements for control of ozone-depleting substances

V. MONITORING AND RECORDKEEPING REQUIREMENTS

Monitoring Requirements

The permit contains requirements for calculating and monitoring NMOC emissions on an annual basis, per 40 CFR §60, Subpart WWW. The Permittee is required to keep track of NMOC emissions in order to determine when and if the 50 Mg/yr threshold will be reached. When the threshold is reached, then a collection and control system is required, and additional monitoring requirements are triggered. It is anticipated that Cinder Lake Landfill will not trigger the additional requirements until 2035; however, they are included in the permit.

Landfill gas monitoring wells installed at the property boundary are sampled on a quarterly basis and measurements are taken using a portable GA-90 Gas Analyzer. In addition, measurements of gas probe pressure, ambient temperature, barometric pressure and rainfall quantities within a week prior to gas sampling are recorded.

Opacity Monitoring Requirements:

The permit specifies opacity limitations for the various emission sources found within the facility. The permit requires the source to perform bi-weekly observations of the various fugitive dust emissions plumes, and if a plume appears to exceed the opacity standard, a 6-minute Method 9 observation is to be conducted. Bi-weekly surveys are to be conducted for any stationary rotating machinery stacks, and Method 9 observations performed if opacity appears to exceed the standard.

Recordkeeping Requirements

The Permittee is to keep records of the date, time, and results of any Method 9 observation made, as well as the name of the observer who conducted the test.

Compliance Assurance Monitoring (CAM)

CAM requirements do not apply to this facility, because the facility does not currently have any kind of pollution control device, and pre-control emissions are below the major source threshold.

VI. PREVIOUS PERMIT

Permit No.	Permit Type
1000775	Title V Air Quality Permit